

Sub
D. Plumer, (J.C.)

MECHANICAL APPLIANCES
IN
TREATMENT OF TALIPES.

J. C. PLUMER, M. D.



Box 299

FROM
"THE PRACTICE OF SURGERY,

"BY JAMES MILLER, F. R. S. E., F. R. C. S. E.,

"Surgeon in ordinary to the Queen of Scotland; Surgeon in ordinary to his Royal Highness Prince Albert, for Scotland; Professor of Surgery in the University of Edinburgh; Consulting Surgeon to the Royal Infirmary, etc., etc., etc."

"FOURTH EDITION, FROM THE LAST EDINBURGH EDITION."

"AFFECTIONS OF THE FOOT.

"TALIPES.

"By this term is understood the deformity of *Club-foot*; generally congenital; yet, not unfrequently acquired. The original development of the bones is not faulty; but displacement of these is gradually effected by a preponderance of action in certain muscles; such preponderance being dependent either on spasm of those which so act, or on want of action in those which ought to be their antagonists. There is no actual *dislocation* of the tarsal bones; there is merely a *gradual change* in their relative positions. * * * * *

"There are varieties of this deformity. * * * * *



Talipes Varus.



The same dissected; showing the altered relative position of the bones.

"**TALIPES VARUS.** This is the most common variety; consisting of extension, adduction, and rotation of the foot—the rotation being analogous to supination of the hand. The muscles of the calf and the adductors of the foot are contracted, the heel is drawn up, the toes turn inwards, the outer edge of the foot rests on the ground, and in progression, weight is borne on the outside of the foot, and on the outer ankle—where adventitious bursæ usually form of some size. * * * * *

"One foot, or both, may be affected by Talipes. In the former case, the affected limb is found thinner and more flabby than the other, and sometimes, by arrest of development, it is shortened as well as weak. The mode of progression is painful and imperfect, and not unfrequently contraction takes place at the knee to a greater or less extent.

"**SPURIOUS TALIPES** is said to occur when displacement of the foot takes place by muscular change or integumental contraction, following on burns, suppurations, ulcers, &c.

"TREATMENT OF TALIPES.

"In the minor cases, which occur in children, *mechanical means*—early employed, *skilfully adapted*, and *duly persevered* with—are alone sufficient to effect a normal relation of parts. Many such cases occur, and it is quite unnecessary to subject the little patients to the pain of tenotomy.

"When the deformity obviously depends on a paralytic condition of certain muscles—as is more likely to be the case in the *acquired* than in the congenital examples—attempts may be made to obviate this condition by remedies directed both to the system and to the part. * * *

"Tenotomy is had recourse to when structural shortening of the muscle, or tendon, or of both has occurred, and when the obstacles to replacement cannot otherwise be overcome. A large number of cases are so circumstanced.

"The operations, however, are but part of the remedial means, and will certainly fail unless *suitable apparatus* be afterwards employed, *well and sedulously*. * * * * *

"The mechanical apparatus need not be described. Many varieties are in use; the simplest usually the best. For the Talipes Equinus and Talipes Varus—the two most common varieties—the indications are simple, and may be simply executed; flexion of the foot by acting on the ankle, and restoration of the normal position of the foot, as regards rotation and abduction, *by acting on the foot itself*."

Regarding the *mechanical* treatment, TALIPES, in the adult especially, — and the same remarks apply as childhood is more advanced, — it seems too little attention is usually bestowed upon the nice adjustment of the mechanical means adopted.

The *sole* of the boot or shoe, upon which the foot is to rest and be supported, should be *formed* and *adapted* to the intended purpose, for so long as the nice adjustment of the one to the other is overlooked, the *upper* portion of the apparatus is of comparatively little importance, and the metallic springs, supports, &c., frequently the source of painful excoriations.

It is evident that if, according to Professor Miller, “the original development of bone is not faulty; but *displacement* of these is gradually effected,” &c.; the restoration must also be accomplished in a gradual manner.

If the *shoe* can be so adjusted to the sole of the foot, that at each step the weight of the body borne upon it tends to throw the foot into a position more approaching that of nature, we escape the disagreeable consequences of pressure upon the upper soft parts of the foot and ankle, and are exerting a direct and continued *straightening effect* upon the member during its use. This is not only desirable to persons absorbed in business avocations, but at the same time the foot is benefitted by exercise.

And it would seem that the circumstances most favorable to the restoration of the bones to their natural position, *are with the foot duly exercised*, under the continued influences of orthopedic mechanical appliances to the *sole* of the foot.

In support of the supposition, the following case is presented with the patient's own statement:

H. P. S. — Æt. 25 years, of medium stature, light complexion, and sanguineo-nervous temperament. At the age of six or seven was thrown from a wagon, striking the small of the back upon a stone. Was taken up insensible and in spasms, receiving no other known injury than evident concussion of the spine, from which there was apparently speedy recovery. Recollects that some three or four weeks afterwards, having recovered so as to attend school, his parents observed inability to raise the front part of the left foot; with frequent tripping and falling; which continued according to best recollection, for two or three years.

In the mean time abscesses made their appearance on the instep, beneath the inner ankle, and at other points, coming and going, up to the age of nine to ten, when they disappeared altogether, leaving the foot much in the condition in which it has since remained. The patient has no recollection of exfoliation.

During the interval of fifteen or sixteen years, he has made use of all usual orthopedic appliances, with springs, supports, pads, &c., up to the time of his having a cast taken of his foot, with the view to procuring a LAST, and from it a properly constructed shoe — and with what success his own testimony is presented.

The present appearance of the foot in different aspects are represented in figures 1, 2, and 3, —



1. Inside.



2. Outside.



3. Front.



4.

Figure 4 representing the under or treading surface of the LAST upon which the shoe was constructed.

DR. PLUMER, — *Dear Sir*: After having worn for several months, the scientifically constructed shoe which you provided for me, I can speak of it with grateful satisfaction, as a vast improvement over the multitude of contrivances which I have previously used.

The essential point gained is, that it keeps the foot firm and erect in walking, without producing pain and soreness as has always been the case with those having iron or steel supports about the ankle.

By its use my improvement has been such as to surprise my friends, as comparatively any lameness is now noticeable, and to afford me much happiness from the ease and comfort derived.

Please accept my grateful acknowledgments.

Respectfully yours,

H. P. S.

MARLBORO' HOTEL, Boston, July 30, 1862.

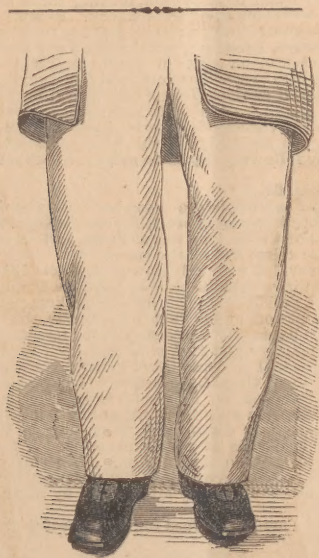


Figure 5.

Front aspect of left foot, and shoe constructed and adjusted according to the foregoing suggestions.

Respectfully,

J. C. PLUMER, M. D.,

111 Pearl Street, Boston.

[P. S. It is proper to notice in this place that the patient is much indebted to the practical skill and honest endeavors of H. M. Anderson, 27 Bromfield Street, of this city.]

TESTIMONIALS.

SCIENTIFIC

STATE ASSAYER'S OFFICE,
Portland, June 15, 1860. }

TO DR. J. PLUMER:

My Dear Sir:—Several months since, while in the pursuit of my official duties, I had occasion to call at your office. While there, my attention was attracted to sundry diagrams which I saw, and on inquiring their meaning, you explained them, and developed to my understanding an invention of great novelty, and which promised to confer a boon long sought after, but until this never discovered. This was no other than the Last as modified and improved by you, in accordance with an eminently philosophical principle. And when I came to comprehend the invention, it commended itself to my judgment as the only correct plan for the construction of a last, and the making of boots and shoes upon it. So thoroughly confident was I of its entire correctness, that I at once ordered a pair of lasts to be made upon the plan, as designed by you. And without awaiting the result of the experiment, I had my wife and her sister measured also for a pair of lasts each, making three several pairs. The shoes made upon these lasts were eminently satisfactory. In my own case they were worn with entire ease and comfort, during a recent journey to Washington, and during my stay there and at Baltimore, I walked several miles a day with less fatigue than I ever remember having experienced on walks of similar lengths before. My wife wore her boots with the greatest comfort, and on temporarily returning to the old style of ladies' boots, was astonished at the difference she found between the new and the old. Her sister, who had always been obliged to buy shoes several sizes too long in order to get those she could wear, at length got a boot which fitted her foot, and reduced it to genteel dimensions. In summing up the advantages of the last, or the shoes or boots made upon it, the following appear to me, evident from my own experience and observation:

1. An accurate and easy fit.
2. The lines of the last conforming to those bounding the skeleton of a well-formed foot, must prevent deformities and appreciably correct them when present.
3. The natural arches of the foot are properly supported, and their development is favored so as to produce a firm and elastic tread.
4. The heel being provided with a hollow seat, where it is firmly set, the foot has not a tendency to slide forward in the shoe or boot, producing pressure upon the nail of the great toe, and a liability to the painful disease known as "ingrowing nail."
5. No doubt exists in my own mind that some forms of lameness, dependent upon abnormal tension of the ligaments and tissues in the tarsal arch may be effectually relieved by wearing shoes made upon the last as improved by you.

And further experience will no doubt develop further advantages.

In conclusion I would say, that I have reason to believe that the principle suggested to your mind and followed out by careful and patient reasoning and experiment has now for the first time, been PRACTICALLY and FULLY DEVELOPED and APPLIED. It consists, as I understand, in conforming the outline of the last to the contour of the osseous ligamentous tissues of a well-formed and developed foot, bringing the point of support more directly in the long axis of the body and limbs, diminishing the amount of leather employed in a shoe to the minimum necessary, and conferring advantages which can be most sensibly appreciated by those who suffer from tender feet.

That you may reap an abundant reward for your careful study and ingenuity is my earnest wish.

Yours very cordially,
H. T. CUMMINGS, M. D.,
Assayer to the State of Maine.

PORTLAND, June 15, 1860.

MR. D. ROBINSON, JR.:

I have worn with great satisfaction and comfort, the boots furnished by you, and made upon the "Patent Last." They were more comfortable to my feet the first time I put them on, than a nice pair of boots, made upon the common form of last, which I have been wearing for several months.

It seems to me that the invention of Dr. Plumer is as valuable as it is novel. Based upon principles entirely scientific, and applied in a manner quite original, I think his services to the public should be highly appreciated and in some way handsomely rewarded.

Very truly yours,
ISRAEL T. DANA, M. D.

MR. D. ROBINSON, JR.:

Dear Sir:—I am happy to say that the boots made for me several weeks since at your establishment, on the "Patent Lasts" of Dr. Plumer, are the most comfortable I have ever worn.

Yours truly,

S. FITCH, M. D.

Portland, Oct. 5, 1860.

PORTLAND, Nov. 23, 1860.

J. C. PLUMER, M. D.:

Dear Sir:—It gives me pleasure to add my individual testimony to that of many friends and acquaintances, in regard to your "Patent Last."

Many inventions, which *theorize* beautifully, fall lamentably short in the *practical application*. This discovery is only exceeded in the breadth and strict truth of its scientific basis by the thoroughness and success of its practical application; and, indeed, as in the old legend of Columbus and the egg, we only wonder that nobody did it before.

It seems to me that a *fair trial* of this last is all that is necessary to convince the most skeptical of its immeasurable superiority to everything in this line that has preceded it.

Truly yours,

CHAS. W. THOMAS, M. D.

PORTLAND, Me., November 23, 1860.

Dear Doctor:—Thank you for your pamphlet on the "Mechanics of the Human Foot." The diagrams are, in a great measure, new to me, and they are very beautiful and very truthful.

Anatomists have long admired the skeleton of the foot, and surgeons have carefully analyzed the principles of its construction and the relation of its parts in order, to remedy its frequent distortions and diseases induced by fashionable boots and shoes.

But the idea of conforming the Last to the solid structure of the foot upon the principles of exact science, (unquestionably originated by yourself,) is destined to revolutionize completely the art of boot making, and elevate it, if not to the rank of the fine arts, at least to that of the finest decorative arts.

The important changes you have instituted in the construction of the Last, are calculated not only to avert the evils named above, but by preserving the integrity of the arches of the foot will eminently develop its beauty, strength, elasticity—and these results will induce many to walk much in the open air, who seldom walked before, especially the ladies, and thus an important means of health will become attractive, interesting, fashionable, and consequently universal.

I have had another pair of boots made on the "Patent Lasts," and shall probably never again habitually wear any other kind.

I formerly remembered my Edinburgh shoes with which I walked over the Highlands of Scotland as most comfortable, and the boots made for me in Paris as very beautiful, but those made upon the "Patent Lasts" are alone perfect: and with sentiments of real gratitude for the benefits of your invention, I remain,

Yours very truly,

S. FITCH, M. D.

Dr. J. C. PLUMER.

PORTLAND, Nov. 24, 1860.

DR. C. PLUMER:

Dear Sir:—I have been perusing your little book upon the "Mechanics' Mechanical Anatomy, and Mechanical Distortions of the Bony Structure of the Human Foot." By the aid of such numerous and ingenious diagrams, you have made the exposition interesting, clear, and conclusive.

I think you cannot fail to reach the *understandings* of the people.

You make your "Patent Last" do what the common last does not begin to do, viz: *correspond to the natural contour of the solid structure of the foot*. Notwithstanding that my feet had so often *ached* in testimony to the fact that new boots even "made to order" upon the old last, would not fit, I would not have believed that the old form of last could be so faulty as the comparison of it with the new has demonstrated it to be.

The *principle* of the "Patent Last" commends itself wholly to my judgment, and I believe it to be as novel as it is excellent.

Boots and shoes made upon it are calculated to *preserve* the natural arches of the foot, upon which the facility of standing and walking largely depend, while the use of those made upon the old plan tends to *break them down*. I examined the foot of a gentleman yesterday, in whose case the arches had been thus destroyed, and who suffers greatly in consequence. He might have escaped this misfortune had your invention been made fifty years ago. It may do something now to correct the deformity.

It makes the wearing of *thick soles* comfortable to ladies, who have heretofore rejected them to the great detriment of their health.

Boots made upon your Last exert an *equable pressure* upon all parts of the foot, and so must tend to prevent the local congestions and tumefactions so common and so painful, and so often leading to results yet more unfortunate.

A personal *experience* has fully realized high expectations on my part, and such is the universal testimony I have heard from others.

Very truly yours,

ISRAEL T. DANA, M. D.

PORTLAND, December 7, 1860.

Dear Doctor:—Permit me to give you my experience in the use of the "Patent Last." Since childhood I have suffered from weakness of the ankles, and flattening of the foot, much aggravated by a recent attack of rheumatism, that left the ligaments so sore as to render walking extremely painful, even in boots which I have worn so long as to fit them as perfectly to the feet as it is possible for boots made on the old last. In this condition I tried a pair of shoes constructed on the "Patent Last." I was able to walk in them with the utmost ease. The peculiar form of the sole and heel afforded that support to the plantar arch which it had always needed, and in a short time my feet were in a better condition than they had ever been before.

I most cordially and gratefully acknowledge the benefit which I have received from their use, and shall take every possible occasion to recommend the "Patent Last" to all who, from any cause, find it difficult to get well fitting and easy boots, certain that, after a sufficient trial, they will agree with me in the belief that it is one of the most valuable and useful inventions of the times. I do not hesitate to predict that it will entirely supercede the use of the old last in no great length of time.

Yours very truly,

W. R. RICHARDSON, M. D., *City Physician,*
Now in the U.S. Navy.

J. C. PLUMER, M. D.

PORTLAND, Dec. 12, 1860.

My Dear Doctor: I received in due season the pair of boots made on your "Patent Last," and cheerfully add my testimony as to the exceeding value of your invention. It is not a little singular that while the most eminent surgeons have devoted a good deal of attention to the subject of corns and bunions, as well as the more serious distortions of the foot produced by badly-made and ill-fitting boots and shoes—no one has gone to the root of the evil, by suggesting the necessary alterations and modifications of the common last, until you turned your attention to the subject; although Prof. Meyer, of Zurich, seems to have given his attention to it almost simultaneously. That the alterations made by you are entirely novel, I presume, admits of no doubt; and that they are made on thoroughly scientific principles is equally unquestionable. The real wonder is, that these alterations have never been made before, with all the suffering and deformity that the world has felt, and surgeons so often seen, from injured and distorted feet.

If any one were asked how a last should be constructed on which to make a shoe that should the most perfectly fit a human foot, it would seem as if there could be but one answer—"to make it in the form of the more solid structure of the foot." Yet in the ordinary last, the form is, in its most essential parts, diametrically the reverse. As a natural consequence, when the shoe is made it has to be worn in discomfort, until the foot itself is has pressed it into the shape that should have been originally given it by the last. If the foot be perfectly sound, this may be done without much injury. But in the vast majority of cases, it is in reality accomplished only by a serious injury to the foot; and corns, bunions, callosities, and deformities are the almost inevitable result. All this, I believe, is entirely remedied by your "Patent Last," and in addition to all this, a most important improvement is added, by throwing the weight of the body where the conformation of the foot plainly shows it was intended by the Creator to be borne.

That those who have suffered from injured and distorted feet will at once avail themselves, and with great comfort, of your excellent last, I cannot doubt. And to all, it seems to me equally important. To the young—to children—where feet are forming as they grow, it is of no less value; allowing them to take all necessary exercise and preserving and developing the natural form and proportions of the foot. To ladies especially, whose health is so dependent on regular exercise, it is of unquestionable value. For them—in our climate—thick soles are of the greatest importance. These made on the shoe formed upon the ordinary last, render it hard, unyielding, and trying to the foot; and before the shoe has become formed to it, which it can only be imperfectly at the best, the foot has become tender and perhaps lame. But upon the shoe made on your last, the thick soles can be placed, and the shoe worn with all the comfort of an old and well-fitted one; coming, as it does, from the maker's hands precisely adapted to the natural form and arches of the foot. The mechanical support afforded by a thick sole can only be appreciated by those who have tried both thin and thick.

These are some of the important ends attained by your excellent Lasts, which I believe will be sufficiently and at once apparent to all who use them.

That you may reap the pecuniary reward which your skill and ingenuity so well entitle you to, is my earnest wish. I remain, dear Doctor, as always, faithfully your friend.

TO J. C. PLUMER, M. D.

GILMAN DAVEIS, M. D.

My Dear Doctor: It gives me pleasure to add my testimony to the value of the "Patent Last," to the originality and accuracy of the scientific principles on which it is based, as well as to its great practical utility—and to express my entire concurrence with the views contained in the letter above from my friend Dr. Daveis.

Yours very truly,

JOHN T. GILMAN, M. D.

PORTLAND, Dec. 22, 1860.

Dear Sir: Without having had any practical experience as to the advantages to be derived from the use of your "PATENT LAST," I am convinced that it is constructed upon correct principles.

By the aid of your ingenious diagrams and models which you have kindly explained to me, these principles are easily apprehended, and the application of them in the manufacture of a proper covering for the feet must be preventive and frequently remedial of the diseases which, in the old method, are so numerous and so frequently attended with pain and deformity.

Fully conscious also of the beneficial effects upon the general health which walking "made easy" and pleasant, would produce in so many ways that readily suggest themselves to all, I cannot but express the gratification I feel that you should have directed your attention to this subject; and add my best wishes that your efforts should meet with the ample reward which, in my opinion, they richly merit, and be followed by even greater success, if possible, in perfecting an improvement so much to be desired.

I remain very truly yours,

TO J. C. PLUMER, M. D.

WILLIAM WOOD, M. D.

PORTLAND, July 12, 1860.

DR. PLUMER,

Dear Sir: Having learned the principles upon which your "Anatomical Last" is made, I was favorably impressed as to its efficacy in relieving a difficulty which we all have experienced, who have to walk considerably, viz: severe pain in the feet after walking. After having worn the boot made upon the "Anatomical Last," I found my anticipations more than realized. I can walk nearly all day without experiencing the above named difficulty in the least degree. I also escaped the torturing process of *breaking in my boots*, for they were as easy at first as after they had been worn.

Truly yours,

C. H. BURBANK, M. D., Now in the U. S. Navy.

BOSTON, July 26, 1861.

Dear Sir: I am greatly delighted with your newly-invented boots which I have worn during the past winter, and only wonder that the world should have been so stupid as not to have made the discovery half a century ago. Any one with a grain of common sense and a moment's reflection, cannot fail to see that your "PATENT BOOTS AND SHOES" are perfectly adapted to the foot, (that wonderful piece of *Nature's Mechanism*), giving to every portion of it a full and equal support and I am sure that those who once make trial of your new invention will never go back to the old-fashioned boots or shoes, which are so prolific of Corns, Bunions, and a thousand other troubles. Your "Patent Boots" seem to be part and parcel of our physical structure, supporting the foot firmly, giving steadiness to the gait, and promoting human comfort to an eminent degree, especially in walking over rough surfaces.

I wish I knew of some means by which I could make known to every man, woman, and child in Christendom, the nature and importance of your invention.

Very truly yours,

MORRIS MATTSO, M. D.

TO J. C. PLUMER, M. D.

65 Summer Street.

I have given time enough in examining the "Patent Last," invented by Dr. Plumer, to give this opinion, viz.: that it appears to me that it is formed on correct principles, and that it will probably be found to answer most valuable purposes.

In regard to the details, I do not discover any fault; but if there be any, experience will probably soon lead to the correction of it.

I know that the amount of evil to the feet, and indirectly to the health, from faults in the shoes and boots commonly worn, is very great, and if all these evils should not be removed, I feel well assured that a great part of them would be, by the use of the "Patent Last" above referred to, after the corrections which experience will teach.

JAMES JACKSON, M. D.

Boston, Dec. 28th, 1860.

"I concur in the above."

Boston, Jan. 2, 1861.

HENRY J. BIGELOW, M. D.

It is rather remarkable that in almost every part of the world where shoes are worn, either for protection or ornament, they are liable to produce more or less uneasiness, distortion, or actual disease of the foot. This remark does not apply alone to what may be called the ensier, or fashionable class of society; it is equally true with regard to those who are obliged to work for their daily bread.

A person having charge of a hospital, where all kinds of affections of the lower extremities are constantly presenting, is very much struck with the distorted condition of the feet in working people.

The great toe is usually pushed outward so as to produce an enlargement of the bone, or disease over the articulation of the first joint, and the little toe is crowded inwards with a hardened excrescence on its outer surface, or it will be found that all the toes have been so forced together, that one of them, generally the second, is misplaced either above or below the others, and the ends of them are so pressed down and stiffened in that position, as to be very much shackled in their motions, thus affording a striking contrast to the foot in its natural condition, where the toes are almost as pliable as the fingers, and the foot can be educated to perform some of the duties of the hand.

To prevent these troubles and deformities, and to place the foot in as comfortable a condition as possible, Dr. Plumer has invented a last which, so far as I have examined it, and am capable of understanding its objects, is likely to remove some of the objections to those shoes as they are usually made. At any rate, if a single fault can be remedied in the ordinary method of construction of shoes, it is worthy the attention of the public.

J. MASON WARREN, M. D.

Boston, April 15th, 1861.

49 Harrison Avenue. }

DR. J. C. PLUMER:

Dear Sir:—It gives me pleasure to state to you the result of my experience in the use of boots and shoes made upon your Patent Last.

An early investigation of the principles involved in your invention enlisted my judgment in its favor, as I think they would not fail to impress any one favorably who has studied the solid structure of the human foot.

A practical experience of my own, and also that of several members of my family for nearly six months, has fully convinced me of the correctness of these impressions.

In consequence of extreme sensitiveness occasioned by a rheumatic affection, my wife has hitherto been unable to wear a boot or shoe of suitable thickness and firmness for the safety of her health in street walking, until she tried those made upon your last, which we are happy to say have answered the purpose perfectly.

Your improved last produces a boot or shoe perfectly comfortable at first, no matter how thick and substantial the soles; and the importance of these for pedestrian purposes cannot be exaggerated. In the wet weather they are indispensable to the preservation of health, and upon hard and rough pavement, the mechanical support afforded the foot is essential to its integrity and comfort.

I will farther add, that I most heartily concur in the remarks on this subject by my venerable friend and former teacher, Dr. James Jackson.

JOHN W. WARREN, M. D.

From J. V. C. Smith, M. D. formerly Mayor of Boston.

PLUMER'S PATENT BOOTS.

The undersigned has worn a pair of these Improved Boots, and feels grateful to the inventor for the comfort derived from them. The nice adjustment of the sole to every part of the under surface of the foot, is an important circumstance which seems to have been entirely overlooked till Dr. Plumer planned his Last and Boot upon truly Scientific Principles.

Those who have once had an opportunity to test the real advantages of these Philosophically made Boots, will hardly be reconciled to wear any other.

J. V. C. SMITH.

From Dr. Lincoln, Brunswick, Maine.

BRUNSWICK, August 20, 1861.

D. ROBINSON, JR., & CO., PORTLAND:—

Gentlemen,—I have been wishing for many years that some one would make a Last in shape of the foot. I am now wearing boots, which I bought of you last spring, (made on "PLUMER'S PATENT LAST,") fully gratifying my wish. No one will wear any others, after trying these.

Your humble servant,

ISAAC LINCOLN.

[From the *Boston Courier* of Feb. 8, 1862.]

A COMFORTABLE UNDERSTANDING.

We notice in the last number of the *Boston Medical and Surgical Journal*, a paper by Dr. J. C. Plumer, upon the mechanical distortions of the human foot, their prevention and remedy, in which the evils consequent upon improperly made boots and shoes are shown, with their cause and the simple and effectual remedy for them is pointed out. Dr. Plumer, who is a gentleman of great mechanical ingenuity, as well as of scientific acquirements, has devoted a number of years to the study of this subject, which is one of no slight importance. It involves the comfort, and not only the comfort but the health and usefulness of every individual; and perhaps there is no benefit which surgery could confer upon the whole community greater than to obviate those tortures, and to prevent that distortion and lameness which are the too common effects of such coverings for our feet as are commonly provided for us. We are glad to know that a Last, in which the principles of prevention and cure pointed out by Dr. Plumer are embodied, is now in very general use. Having been ourselves for more than a year in the enjoyment of the benefits of this invention, we can speak decidedly of its advantages, and of the perfect comfort, from the very first day's wear, of boots and shoes made upon this plan. We are pleased also to learn that many of our most extensive wholesale manufacturers now use Dr. Plumer's Last, some of them exclusively; and that all the best custom makers throughout the country are adopting it. It certainly only needs to be once experimentally known to be everywhere adopted by one consent.

NEW YORK, April 12, 1861.

My Dear Doctor,—I am wearing with the utmost ease and satisfaction the "Patent boots." I believe they are constructed upon truly scientific principles. The long and transverse arches of the foot are preserved. The heel is made firm and solid, and they are altogether the most comfortable walking boot I have ever worn. You have done the human family a great good by this invention, for it is evident that deformities of the feet may be prevented in the young, and more or less perfectly corrected in the old, by wearing coverings made upon your "Patent Lasts."

Very truly yours, etc.,

D. S. CONANT, M. D., 138 Fourth Avenue.

TESTIMONIALS.

LITERARY.

[From the *Portland Transcript*, Jan. 26, 1861.]

MR. EDITOR: That you may grow cucumbers to a bottle, and oblige them to take the shape of the bottle, everybody knows or ought to know. That the human foot may be transformed in the same way, and be made to take upon itself any shape, according to the whim of a shoemaker, ought also to be known, and the sooner the better; lest God's handy work be utterly spoiled by little and little, before the sufferers get their eyes open, or the *understandings* enlightened enough to see or feel the truth.

Having tried the new last of Dr. Plumer, and worn the boots long enough to be able to speak without any serious misgiving, allow me to say, as a matter of duty, and of my own free will, without solicitation, that I look upon the invention as among the most truly scientific and comfortable, and promising, of our age. Of course improvements may still be made, and if this were a proper time I might suggest one or two, as General Jackson did a new system of banking when heartily sick of the old, but as they would not effect the principles involved, and relate only to their application, there is no need of waiting till no further improvement can be hoped for, as some do.

J. NEAL.

[From the *Boston Courier*, Feb. 16, 1861.]

EASY BOOTS AND SHOES.—Some weeks since we called the attention of our readers to a very ingenious application of the principles of anatomy to the manufacture of boots and shoes, made by Dr. Plumer, of Portland. At that time, although we could not but be convinced of the simplicity and correctness of the principle upon which Dr. Plumer's lasts are constructed we had not the practical experience which now enables us to say that boots made upon them more than fulfil all that their ingenious inventor promises; they are as easy from the first day "as an old shoe," being at the same time in no way less elegant and tasteful to appearance than the old instruments of torture which are so frequently flung away with execrations both loud and deep. A number of ladies and gentlemen of our acquaintance have availed themselves of the invention of Dr. Plumer, and are unanimous in its praise. It meets with the approval of our best surgeons and physicians, and cannot fail of immediate adoption, wherever it is properly made known. We extract the following from the *Boston Medical and Surgical Journal* of the 31st ult.:

A SENSIBLE SHOE.—We have often heard old people, who have outlived their vanity, talk about "sensible shoes," by which phrase they intended to convey the idea of long, wide, leather receptacles, too large for the feet. This view being too repulsive to the minds of those who had more aesthetic ideas, has not been generally adopted. Unfortunately, the latter have forgotten the danger of forming a shoe upon the principles which guide them in the construction of a bonnet. To vary the shape, as is constantly done, without regard to the confirmation of the foot, is sure to be followed by deformity and all its attendant sufferings.

Dr. Plumer, of Portland, has designed a last upon what, the most skeptical will allow, is, at least a correct principle. He has taken the foot itself as a model, and given it support where the latter is most needed, and avoided pressure which could only be injurious. The principle improvements are in the shape of the sole, and the position of the heel, and we feel persuaded that the adoption of them would add much to the comfort of those who

"Sow in suffering what they reap in corns."

"SOUTH BEND, IND., February 16, 1861.

"D. ROBINSON, JR. & Co.—*Gentlemen:* Having for a week past worn the boots made for me upon the patent last invented by J. C. Plumer, M. D., I feel qualified to report concerning them. I have heretofore had much difficulty in finding boots which would suit my feet, and have usually been obliged, for the sake of ease, to select those which were considerably larger than necessary.

"From the closeness and neatness of the fit, in the pair you made, I was apprehensive of a similar difficulty, but to my gratification, I have found that they do not in the least cramp the foot in walking.

"The first thing which struck me was the great firmness and security given to the tread by the position of the heel; the next, the support which the ball of the foot receives, and the free play allowed to the muscles of the toes. These peculiarities give the boot an advantage, for pedestrian exercise, over all others with which I am acquainted.

"There is no part of our clothing in which a reform is more needed, and I hope that your success may partly falsify the classic proverb, and prove that the shoemaker may, at least, go beyond *his old-fashioned last*.

"Respectfully yours, "BAYARD TAYLOR."

Let Dr. Plumer become the patron saint of our shoemakers — our modern St. Crispin — and we shall stand upon another and much easier footing.

Then may those walk who never walked before,
And those who always walked now walk the more.

[From the *New York Evening Post*, May 7, 1861.]

"UNTO THIS LAST."

Several months ago we took occasion to call the attention of the readers of the *Evening Post* to a little book entitled "Why the Shoe Pinches," by Prof. Meyer, of Zurich, one of the highest continental authorities on Physiological Anatomy, who has devoted himself particularly to the study of the structure and mechanical adaptations of the feet and lower limbs. In this little treatise the Professor dwells on "the arrogant absurdity of which fashion is guilty in going so far as to determine the shape of our feet," and insists that fashion should take the cut of the shoe from the form of the foot, and not cramp the form of the foot to fit the shoe; and, moreover, proves clearly that "the influence of fashion on the shape of the shoe produces the most baneful effects on the mechanism of the foot and on its soundness, and thus materially affects our moving about and our consequent ability to take a sufficient amount of open-air exercise." Other eminent anatomists have called attention to the diseases and serious distortions of the foot produced by badly-made and ill-fitting boots and shoes. Camper, a distinguished anatomist of the last century, in a paper "On the Best Shoe," remarks: "All horse-doctors and horse-fanciers are interested in the shoeing of their horses; numerous papers appear thereon; and shall we not concern ourselves about the foot-gear of man?"

The suggestions of these eminent men, though they attracted considerable attention, were not found practicable, and there was always the objection that the form of the shoe recommended was very clumsy.

It remained for one of our countrymen to suggest a practical remedy for the abuses of the feet, and to furnish a shoe which should be elegant in form, and at the same time perfectly adapted to the needs of the foot in walking. Dr. J. C. Plumer, of Portland, Me., has made the mechanical anatomy of the foot the subject of special study, and has invented a LAST constructed in accordance with the bony and ligamentous conformation of the sole and back part of the foot, when the heel is *elevated*, and he claims that boots and shoes made upon it will not only prevent deformities, but correct those already existing. Dr. Plumer has also published a valuable little treatise on "The Mechanics, Mechanical Anatomy, and Mechanical Distortions of the Bony Structure of the Human Foot," in which he shows that the foot in its natural state is a double arch — a longitudinal arch from heel to toe, and the transverse arch from side to side, upon which two arches the entire weight of the body rests. The shoes made upon the "Patent Lasts" are exactly fitted to support these arches. The last being hollowed from end to end and from side to side, and having indentations and projections exactly where the bones of the normal foot have them, so that the shoe is "broken in" by the shoemaker's hammer, instead of the foot of the wearer, which has heretofore done that work; hence it is found that a pair of new shoes made on the new last are as easy as old shoes of the old pattern. They are constructed with a view to the support of the foot. One important improvement in the new last consists in bringing forward the heel. Dr. Plumer shows that the ball of the foot and the heel are the two abutments upon which the longitudinal arch of the foot rests, and that if the heel be placed too far back the weight of the body depresses the centre of the arch, which is the instep, and produces the common deformity of a flat or splay foot. Indeed, the whole tendency of boots and shoes constructed in the prevailing style is to break down instead of to support the bony structure of the foot.

We have endeavored to point out some of the advantages of this ingenious invention, and refer our readers to Dr. Plumer's pamphlet, in which he treats the whole subject of the mechanical affections and anatomy of the foot in a very able manner, illustrating his subject by diagrams. Since the introduction of his anatomical last, Dr. Plumer has received numerous letters from scientific and practical men, all of whom give it unqualified praise, and he has been invited by the students in several of our medical colleges to give a practical demonstration of the principles involved in the construction of his last, and they have expressed their approval. It commends itself to surgical attention at once.

[From the *Boston Daily Courier*, May 21, 1861.]

LITERATURE.

WHY THE SHOE PINCHES: a Contribution to Applied Anatomy. By Hermann Meyer, M. D., Professor of Anatomy in the University of Zurich. Translated from the German by John Stirling Craig, L. R. C. P. E., etc. American Edition: edited by J. C. Plumer, M. D. Pamphlet, 8vo., pp. 24, with illustrations.

We have previously, on several occasions, called the attention of our readers to the improvements which have been recently introduced into the manufacture of boots and shoes, by the American editor of the brochure before us. After reading the little book by which Dr. Plumer's most ingenious adaptation of the covering of the foot to its anatomical structure was made known, and still more after having had for many months a demonstration of the correctness of the principles upon which this adaptation was made in our own person, we could not but feel that we were conferring a favor upon the public by making the facts as widely known as possible. That Dr. Plumer's invention has attracted the favorable attention of the leading physicians and surgeons of Boston, New York, and Philadelphia, is much, but the combined and universal testimony of wearers in its favor, is more. Not only is the *principle* right, it is also *rightly applied*; and henceforth if any one allows himself to be put to the torture by the sons of St. Crispin, it is his own fault.

The pamphlet "Why the Shoe Pinches," by Prof. Meyer, is reproduced in this country, says Dr. Plumer in his preface, not on account of the novelty or practical value of its directions, but to show that men of high scientific and professional eminence do not regard the subject as beneath their attention. Dr. Plumer goes on to say, that had this pamphlet been in this country prior to the appearance of his own publication on "The Mechanical Affections, Mechanics, and Mechanical Anatomy of the Bony Structure of the Human Foot," (the little work to which we first called the attention of our readers,) it might have been inferred that many ideas had been derived from that source. Such, however, was not the fact. We may add, after a careful examination of both, that notwithstanding Prof. Meyer's great and just reputation, he shows himself much less master of the subject than his American contemporary. The changes which he suggests are evidently far from reaching the real evil, while they necessitate an alteration in the external form of the boot such as no gentleman would care to appear in. This is not the case with boots from Dr. Plumer's last, which, obviating all evils most completely and radically, are yet not inferior in external elegance to any heretofore sold. We may add, for the convenience of our readers, that boots from these lasts are made by Messrs. Moseley & Co., Summer Street; and on a large scale, for the wholesale trade, by Messrs. Lindsley, Shaw, & Co., No. 109 Pearl Street.

[From the *Boston Traveller*, June 17, 1861.]

IMPROVEMENTS IN BOOTS AND SHOES.

Among the recently issued patents we notice one of great practical value to every individual of civilized life. It is for a *boot* or *shoe* scientifically constructed. Dr. J. C. Plumer is a regularly graduated physician, now resident of this city, has made the mechanical anatomy of the foot the subject of especial study, and has invented a Last constructed in accordance with the bony and ligamentous conformation of the sole and back part of the foot, when the heel is *elevated*, and he claims that boots and shoes made upon it will not only prevent deformities, but correct those already existing. The productions from the patent *lasts* are boots and shoes properly formed, and which are broken in by the shoemaker's hammer, instead of the foot of the wearer, which has heretofore done that work; hence it is found that a pair of patent boots or shoes are easy to the foot at first.

[From the *Boston Journal of Physical Culture*, August, 1861, by Dio Lewis, M. D.]

A NEW SHOE LAST.

Dr. Plumer has patented a Last, known as Plumer's Last, which is really one of the happiest inventions of the day.

It is the first application of common sense to the manufacture of boots and shoes.

I suppose it happened in this wise:—Dr. Plumer was tortured by a pair of the ingeniously cruel shoes now in vogue, and it occurred to him, as a means of relief, to have a pair made which should exactly fit his feet. So taking off his shoes and stockings, he had a model of the bottom and sides of his foot taken in plaster, and a last made of exactly the same shape. A pair of shoes being made on this last gave him, of course, a shoe as easy as a stocking.

I have a pair of shoes made on the new last, on my feet, while writing this. The day is a warm one, and I have been on my feet for six hours; the shoes are new and close fitting, but the feet do not suffer in the least.

It is curious to compare the new last with the old one. One can hardly believe they were designed for the same purpose.

If any one desires to examine the last, at the shoe store under this Gymnasium, it can be seen.

[From the Evening Transcript, Saturday, Aug. 3, 1861.]

FOREIGN PATENTS FOR AMERICAN INVENTIONS.

As a curiosity in its way, an English patent with the royal seal of Great Britain, may be seen in the window of the store of T. E. Moseley & Co., Summer Street. It was recently granted to J. C. Plumer, M. D., of this city, for "*improvements in the construction of boots and shoes*;" in regard to which we have seen some of the best testimonials, among them that of Bayard Taylor. In regard to our own experience with boots from the above establishment, we can speak with unqualified satisfaction. We understand Dr. Plumer is meeting with flattering success in the introduction of his improvements, and we can hardly conceive the contrary in an intelligent community.

[From the Boston Daily Advertiser, August 31, 1861.]

THE ANATOMIC LAST.

Dr. John C. Plumer, a physician of education and experience, has made a special study for several years of the anatomy of the human foot, with a view to the relief of pain and the security of health to result from the wearing of boots and shoes properly constructed to secure these great objects. The results of his study take shape in the "Anatomic Last," of which he is the inventor and patentee. He has obtained patents for his Last in America, France, and England. The principles upon which it is constructed have received the approbation of some of the highest medical authorities, and it has already been introduced into actual use by many individuals for their own wear, and also by some of the largest manufacturers.

It is sufficiently palpable to all observation that boots and shoes ordinarily worn have a very different shape from that of the natural foot; but it does not follow that a last which actually reproduces the existing shape of the foot of any person, will be the proper basis for a boot or shoe for him to wear. Such lasts are liable to make unsightly as well as uncomfortable boots and shoes, because they exaggerate the distortions which have arisen from the wearing of ill-fitting shoes before.

Dr. Plumer has proceeded upon the principle of ascertaining by careful study which parts of the foot require support, which can and which cannot bear pressure, and upon what points the weight of the body should be thrown. Within these limits he has sought to make his lasts the exact shape of the natural foot. Thus he finds that the sole of the foot is naturally a double arch;—man being, so to speak, quadripedal, or at least tripodal, in each of his bipedal extremities, (this jargon is our own, not the doctor's), and accordingly the bottom of one of Plumer's lasts is concave, instead of convex, as is the common last. The weight of the body is thus thrown upon those parts of the sole of the foot which nature designed should bear it, and not upon other parts unfitted for the function. In like manner an easy play is secured for the anatomy of the instep, and for the muscles which regulate the movements of the toes.

There is abundant evidence of the relief experienced by those who wear boots and shoes made upon the "anatomic last," besides the high medical and practical authority in its favor. Among the medical authorities who bear witness to the correctness of the principles involved in the construction of this last, are Dr. James Jackson, Dr. J. Mason Warren, Dr. John W. Warren, and others.—Ladies as well as gentlemen are admitted to share in the advantages of this great reform. A tariff of charges for the privilege of the patent last, exceedingly moderate in amount, has been established, and we cannot doubt that its use will speedily become general.

[From the Boston Journal, Friday, Sept. 20th, 1861.]

PLUMER'S PATENT BOOTS.

Dr. Plumer's Patent Boots and Shoes, advertised in another column, have been before the Boston public, for the past year, and are now being made by many of the leading manufacturers of this and other States. They are constructed upon an improved last, also the subject of a patent by Dr. P., the peculiarities of which are that it is so formed as to fashion a boot or shoe which will prevent distortions of the foot, and tend to correct already existing ones, produced by wearing badly made shoes, hitherto so general.

The above inventions are receiving the highest degree of scientific, as well as practical approval, as will be seen by reference to testimonials of some of the most eminent Physicians and Surgeons of this and other cities.

[From the Boston Post, Wednesday, October 16, 1861.]

The Patent Boots and Shoes by Dr. Plumer, advertised in another column, are rapidly coming into general public favor. One peculiarity of the lasts upon which these boots and shoes are made is that in profile they represent that of the foot when the heel is elevated and the *shank* is shortened. In combination with this is a more important feature, viz: the lasts are so conformed on their under surface as to produce depressions and elevations upon the sole of the boot or shoe which are the counterpart of the outlines of the solid structure of the foot. This combination, the patentee claims, "involves an important principle, the result of which when applied to manufacture, is not only an immunity from the painful '*breaking in*' process, rendering comfortable thick soles, a much needed protection against hard, rough pavements, cold and damp, but a protection to the integrity of the structure of the foot, preventing and correcting distortions."

Dr. P.'s testimonials are of the highest order, from which we select the following of the Hon. Montgomery Blair, our present Postmaster General:—

WASHINGTON, Nov. 24, 1860.

Dear Doctor: I like the shoes made on your lasts so well that I mean to wear them altogether, and write now to get you to have me a pair of lasts made and sent on.

Yours truly, M. BLAIR.

BOSTON, March 28, 1861.

DEAR SIR: In answer to your favor of the 26th instant, we have now been using your "Patent Last" for the past six months, and from our own personal experience, and observation of that of others, we do not hesitate to pronounce it the best last ever produced.

Respectfully yours,

T. E. MOSELEY & CO., Summer Street, Boston.

BOSTON, March 15, 1861.

DR. PLUMER: I have now been engaged for nearly a year, at the establishment of T. E. Moseley & Co., in making to measure Custom Boots and Shoes on your Patent Last, and with few exceptions usually unavoidable, with gratifying success, and general satisfaction to our patrons.

JAMES MCCONOLOGUE.

BOSTON, Sept. 14, 1861.

DR. PLUMER,—*Dear Sir:* I have been engaged in making Custom Boots and Shoes upon your Patent Last the past three months, and with invariable success and satisfaction to my customers.

F. SMALL, Essex Street.

BOSTON, Sept. 14, 1861.

I have used Dr. Plumer's PATENT LAST for the last few weeks, and am happy to say, with perfect success, and would highly recommend them to the public.

H. M. ANDERSON, 27 Bromfield Street.

BOSTON, November 29, 1861.

DR. PLUMER,—*Dear Sir:* I have used your "PATENT LAST" for nearly six months past, and more generally for that class of feet which have a great tendency to wear Boots unevenly; and in no single case have they failed to correct the difficulty and give entire satisfaction to the wearer. Your Lasts, especially for this class of feet, I consider invaluable, and in my opinion, they will come into general use.

WM. PROCTOR, No. 15 Water Street.

[Established in 1815.]

